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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,502	11/09/2001	William P. Acker	107044-0003P1	3692

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CESARI AND MCKENNA, LLP
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BOSTON, MA 02210

EXAMINER

SCALTRITO, DONALD V

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 08/20/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,502

Applicant(s)

ACKER ET AL.

Examiner

Donald V Scaltrito

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 2 is/are allowed.
- 6) ☒ Claim(s) 3 and 5 is/are rejected.
- 7) ☐ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 3 & 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ren et al. (U.S. Patent No. 65,488,837).

Ren et al. disclose a sensor that outputs a signal related to a concentration of methanol in an aqueous solution adjacent the sensor. A membrane electrode assembly (MEA) is included with an anode side and a cathode side and a current sensor is connected to measure the current in a short circuit across the sensor electrodes to provide an output signal functionally related to the concentration of methanol in the aqueous solution (note abstract).

With respect to Claim 3, Ren et al. disclose a direct methanol fuel cell system that comprises sources of methanol, water and air wherein a current sensor measures the current in a short circuit across the sensor electrodes to provide an output signal that is related to the methanol concentration in an aqueous solution (see column 2, lines 11-24 of this reference). Ren et al. also disclose a physical barrier between the aqueous methanol solution and the anode side of the fuel cell stack wherein the physical barrier diffusion controls the amount of methanol to

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the anode (column 3, lines 3-44). The Examiner would like to point out that the physical barrier that is disposed and in fluid connection with the aqueous methanol and the anode is interpreted as a concentration regulator. With respect to Claim 5, Ren et al. disclose a physical barrier for methanol concentration regulation, sensing a short circuit current of a fuel cell and using the sensed short circuit current to determine and adjust the methanol concentration (column 3, lines 3-44). This reference, therefore, anticipates Claims 3 & 5 of the current application.

Allowable Subject Matter

Claims 1 & 2 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or fairly suggest a periodically short-circuiting a load driven by a direct methanol fuel cell and sensing the short circuit current produced by the fuel cell wherein the sensed current is compared to a reference and a control signal is generated in response to the comparison.

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or fairly suggest a direct methanol fuel cell system comprising a methanol concentration regulator wherein the regulator is made of a metering valve, a pump or a combination thereof.

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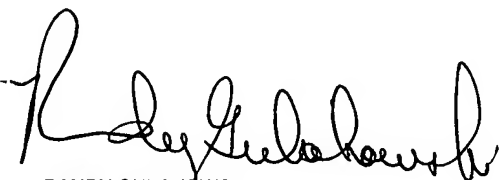
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Scaltrito, whose telephone number is 703.305.4926. The examiner can be reached in his office on Monday-Friday between the hours of 9am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, may be reached at 703.308.4333. The official fax number for the organization where this application or proceeding is assigned is 703.872.9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.305.0661

Donald Scaltrito
Patent Examiner
Art Unit 1746
August 5, 2003



RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700